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What is claimed is:

- 1. A field effect transistor (FET) device comprising a surface of the channel region being corrugated.
- 2. The field effect transistor (FET) device of claim 1 wherein the field effect transistor (FET) device is selected from the group consisting of metal oxide semiconductor field effect transistor (MOSFET) devices and metal semiconductor field effect transistor (MESFET) devices.
- 3. The field effect transistor (FET) device of claim 1 wherein the at least one of:

the surface of the channel region, is corrugated with a peak-to-peak longitudinal periodicity of from about 0.02 to about 0.4 microns and a peak-to-valley vertical depth of from about 100 to about 1000 angstroms.

- 4. The field effect transistor (FET) device of claim 1 wherein only the interface of the channel region covered by the gate electrode is corrugated.
- 5. The field effect transistor (FET) device of claim 1 wherein only the upper surface of the gate electrode is corrugated.

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- 6. The field effect transistor (FET) device of claim 1 wherein both the interface of the channel region covered by the gate electrode and the upper surface of the gate electrode are corrugated.
- 7. The field effect transistor (FET) device of claim 1 wherein the gate electrode is formed to a thickness of from about 500 to about 2000 angstroms.
- 8. A method for forming a field effect transistor (FET) device comprising:

providing a semiconductor substrate;

forming over the semiconductor substrate and covering a channel region within the semiconductor substrate a gate electrode; and

forming within the semiconductor substrate and separated by the channel region within the semiconductor substrate a pair of source/drain regions, wherein at least one of:

an interface of the channel region covered by the gate electrode; and

an surface of the channel region, is corrugated.

- 9. The method of claim 8 wherein the field effect transistor (FET) device is selected from the group consisting of metal oxide semiconductor field effect transistor (MOSFET) devices and metal semiconductor field effect transistor (MESFET) devices.
- 10. The method of claim 8 wherein the at least one of:

the interface of the channel region covered by the gate electrode; and

the upper surface of the gate electrode, is corrugated with a peak-to-peak longitudinal periodicity of from about 0.02 to about 0.04 microns and a peak-to-valley vertical depth of from about 100 to about 1000 angstroms.

- 11. The method of claim 8 wherein only the interface of the channel region covered by the gate electrode is corrugated.
- 12. The method of claim 8 wherein only the upper surface of the gate electrode is corrugated.
- 13. The method of claim 8 wherein both the interface of the channel region covered by the gate electrode and the upper surface of the gate electrode are corrugated.

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14. The method of claim 8 wherein the gate electrode is formed to a thickness of from about 600 to about 200 angstroms.